

NEW ABSTRACT

A device includes an antenna for receiving an incoming signal. A multiplier multiplies the incoming signal with an output from a carrier generator in order to mix down signal the incoming signal. The output of the multiplier is provided to correlators for sequential correlation with a replica code of the mixed down signal provided from a code generator, in order to produce correlation data including I (imaginary) and Q (real) channels. The correlation data is then passed to a signal processor which adjusts appropriately both the code generator and the carrier generator to provide accurate position measurement in indoor environments with multiple diffuse reflections.